

What is claimed is:

1 1. A wiring structure for semiconductor device,
2 comprising:

3 a wiring layer that includes copper as main component;
4 and

5 a crystal grain promotion layer that promotes enlargement
6 in a crystal grain of the wiring layer.

1 2. The wiring structure for semiconductor device
2 according to claim 1, wherein:

3 the crystal grain of the wiring layer satisfies a relation
4 of $D > 10 \times L$ where D is an average grain diameter of crystal
5 grain to be enlarged finally in the wiring layer and L is mean
6 free path of electron.

1 3. The wiring structure for semiconductor device
2 according to claim 1, wherein:

3 the crystal grain promotion layer is disposed between a
4 semiconductor or dielectric film and the wiring layer.

1 4. The wiring structure for semiconductor device
2 according to claim 3, wherein:

3 the crystal grain layer has a good contact with the
4 semiconductor or dielectric film and the wiring layer and is
5 of a material that has a low reactivity to the semiconductor
6 or dielectric film and the wiring layer.

1 5. The wiring structure for semiconductor device

2 according to claim 1, wherein:

3 the crystal grain layer is of high melting point metal,
4 or nitride or carbide of the high melting point metal.

1 6. The wiring structure for semiconductor device
2 according to claim 1, wherein:

3 the crystal grain layer is of a material selected from
4 the group of titanium, tantalum, titanium nitrides, titanium
5 carbides, tantalum nitrides and tantalum carbides.